

**Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services**

STATEMENT OF BASIS

**Westlake Polymers, LLC
Polyethylene Manufacturing Complex
Sulphur, Calcasieu Parish, Louisiana
Agency Interest Number: 9061
Activity Number: PER20090003
Proposed Permit Number: 0520-00127-V2**

I. APPLICANT

Company:

Westlake Polymers, LLC
Post Office Box 2449
Lake Charles, Louisiana 70604

Facility:

Polyethylene Manufacturing Complex
3525 Cities Service Highway, Sulphur, Calcasieu Parish, Louisiana
Location: 30.199167⁰ latitude, -93.325278⁰ longitude, Coordinate Datum NAD83

II. FACILITY AND CURRENT PERMIT STATUS

LDPE pellets are produced at the Poly I (process lines A, B, and F) and Poly II (process lines J and K) using a high pressure process. Ethylene gas is injected into reactors using electric-driven reciprocating compressors. Initiators, catalysts, modifiers, and vinyl acetate may also be fed to the reactors. Reaction mass from the reactors is discharged to separator vessels where the unreacted ethylene is recycled to the process while the molten LDPE is routed to extruders for pelletizing. The pellets are blended and packaged prior to shipment.

The complex currently operates under Permit 0520-00127-V1, dated July 17, 2006.

III. PROPOSED PROJECT/PERMIT INFORMATION

Application

A permit application dated May 20, 2009 was submitted requesting a Part 70 operating permit renewal / modification.

Project

Westlake Polymers requests a Part 70 operating permit renewal for the facility. The renewed permit also includes the F Line Modification Project and various case by case insignificant activities which were previously approved. Emissions from various sections of the facility, along with the operating parameters, and the General Condition XVII List were also be updated.

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Proposed Permit

This permit (Permit 0520-00127-V2) is a renewal for the current Part 70 operating permit for the Polyethylene Manufacturing Complex.

Permitted Air Emissions (tons/year)

Pollutant	Permitted	Proposed	Change
PM ₁₀	48.44	49.31	+ 0.87
SO ₂	0.50	0.49	- 0.01
NO _x	51.50	54.37	+ 2.87
CO	107.16	107.16	-
VOC	260.69	259.59	- 1.10
Sulfuric acid	0.01	0.01	-

IV REGULATORY ANALYSIS

The applicability of the appropriate standards is straightforward and provided in the Specific Requirements section of the proposed permit. Similarly, the Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms, conditions and standards are also provided in the Specific Requirements section of the proposed permit.

Applicability and Exemptions of Selected Subject Items

The explanations for the non-applicability and exemptions of selected subject items are listed in Table XI of the proposed permit.

Prevention of Significant Deterioration (PSD)/Nonattainment Review

Criteria emissions from the complex will not increase more than their PSD significance levels. PSD review is not required.

Streamlined Equipment Leak Monitoring Program

The permit does not include any Streamlined Equipment Leak Monitoring Program.

MACT Requirements

The facility is a major source of Toxic Air Pollutants (TAPs) pursuant to LAC 33:III.Chapter 51. TAP emissions from the flare (EQT008) are minimized by complying with 40 CFR 63 Subpart A while TAP emissions from the gasoline tank (EQT009) are controlled by complying with LAC 33:III.2103. These controls were determined as MACT. No additional control is determined as MACT for TAP emissions from the boilers (EQT017 and EQT018) and the thermal oxidizer (EQT019).

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Air Quality Analysis

Emissions were reviewed by the Air Quality Assessment Division to ensure compliance with the NAAQS and AAS. The proposed project did not require the applicant to model emissions.

General Condition XVII Activities

The facility will comply with the applicable General Condition XVII Activities emissions as required by the operating permit rule. However, General Condition XVII Activities are not subject to testing, monitoring, reporting or recordkeeping requirements. For a list of approved General Condition XVII Activities, refer to the Section VIII – General Condition XVII Activities of the proposed permit.

Insignificant Activities

All Insignificant Activities are authorized under LAC 33:III.501.B.5. For a list of approved Insignificant Activities, refer to the Section IX – Insignificant Activities of the proposed permit.

V. PERMIT SHIELD

This permit does not contain any permit shield.

VI. PERIODIC MONITORING

To demonstrate compliance with the permit limits and applicable standards, visible emissions from the cyclone, dust filters, and baghouses will be inspected daily or weekly. Fugitives emissions are monitored as required by LAC 33:III.2122, 40 CFR 60 Subpart DDD, or 40 CFR 63 Subpart UU while the flame presence at the flare is monitored as required by 40 CFR 63 Subpart A. Production rates of each production line are monitored.

VII. GLOSSARY

Best Available Control Technologies (BACT) - An emissions limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under this part which would be emitted from any proposed major stationary source or major modification which the administrative authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant.

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CAM - Compliance Assurance Monitoring rule – A federal air regulation under 40 CFR Part 64

Carbon Black - A black colloidal substance consisting wholly or principally of amorphous carbon and used to make pigments and ink.

Carbon Monoxide (CO) – (Carbon monoxide) a colorless, odorless gas produced by incomplete combustion of any carbonaceous (gasoline, natural gas, coal, oil, etc.) material.

Cooling Tower – A cooling system used in industry to cool hot water (by partial evaporation) before reusing it as a coolant.

Continuous Emission Monitoring System (CEMS) – The total combined equipment and systems required to continuously determine air contaminants and diluent gas concentrations and/or mass emission rate of a source effluent.

Cyclone – A control device that uses centrifugal force to separate particulate matter from the carrier gas stream.

Duct Burner – A device that combusts fuel and that is placed in the exhaust duct from another source (such as a stationary gas turbine, internal combustion engine, kiln, etc.) to allow the firing of additional fuel to heat the exhaust gases before the exhaust gases enter a steam generating unit.

Federally Enforceable Specific Condition - A federally enforceable specific condition written to limit the potential to Emit (PTE) of a source that is permanent, quantifiable, and practically enforceable. In order to meet these requirements, the draft permit containing the federally enforceable specific condition must be placed on public notice and include the following conditions:

- A clear statement of the operational limitation or condition which limits the source's potential to emit;
- Recordkeeping requirements related to the operational limitation or condition;
- A requirement that these records be made available for inspection by LDEQ personnel;
- A requirement to report for the previous calendar year.

Grandfathered Status- Those facilities that were under actual construction or operation as of June 19, 1969, the signature date of the original Clean Air Act. These facilities are not required to obtain a permit. Facilities that are subject to Part 70 (Title V) requirements lose grandfathered status and must apply for a permit.

Heat Recovery Steam Generator (HRSG) – A steam generator that recovers exhaust heat from a gas turbine, and provides economizing and steam generation surfaces.

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Hydrogen Sulfide (H₂S) - A colorless inflammable gas having the characteristic odor of rotten eggs, and found in many mineral springs. It is produced by the action of acids on metallic sulfides, and is an important chemical reagent.

Maximum Achievable Control Technology (MACT) - The maximum degree of reduction in emissions of each air pollutant subject to LAC 33:III.Chapter 51 (including a prohibition on such emissions, where achievable) that the administrative authority, upon review of submitted MACT compliance plans and other relevant information and taking into consideration the cost of achieving such emission reduction, as well as any non-air-quality health and environmental impacts and energy requirements, determines is achievable through application of measures, processes, methods, systems, or techniques.

NESHAP - National Emission Standards for Hazardous Air Pollutants –Air emission standards for specific types of facilities, as outlined in 40 CFR Parts 61 through 63

Nitrogen Oxides (NO_x) - Compounds whose molecules consists of nitrogen and oxygen.

Nonattainment New Source Review (NNSR) - A New Source Review permitting program for major sources in geographic areas that do not meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. Nonattainment NSR is designed to ensure that emissions associated with new or modified sources will be regulated with the goal of improving ambient air quality.

NSPS - New Source Performance Standards – Air emission standards for specific types of facilities, as outlined in 40 CFR Part 60

Organic Compound - Any compound of carbon and another element. Examples: Methane (CH₄), Ethane (C₂H₆), Carbon Disulfide (CS₂)

Part 70 Operating Permit- Also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III.507. Major sources include, but are not limited to, sources which have the potential to emit: ≥ 10 tons per year of any toxic air pollutant; ≥ 25 tons of total toxic air pollutants; and ≥ 100 tons per year of regulated pollutants (unless regulated solely under 112(r) of the Clean Air Act) (25 tons per year for sources in non-attainment parishes).

PM₁₀- Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

Potential to Emit (PTE) - The maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

Prevention of Significant Deterioration (PSD) – A New Source Review permitting program for major sources in geographic areas that meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade.